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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,848	09/09/2005	Masakazu Kobayashi	02165PCT	9572
23165 7590 12/06/2007 ROBERT J JACOBSON PA 650 BRIMHALL STREET SOUTH ST PAUL, MN 551161511			EXAMINER SARKAR, ASOK K	
			ART UNIT	PAPER NUMBER
			2891	
			MAIL DATE	DELIVERY MODE
			12/06/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

# Office Action Summary

Application No.

10/525,848

Applicant(s)

KOBAYASHI ET AL.

Examiner

Asok K. Sarkar

Art Unit

2891

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 February 2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
- ☒ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date 5/05 and 11/06.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1 – 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nissan Chem., JP 05124818 in view of JSR Corp., JP 2000290589.

Regarding claims 1 and 2, Nissan Chem. teaches a production process for metal oxide coating, which comprises the step of heating a mixture including a metal carboxylate, an alcohol, and particles or a mixture including a metal-alkoxy-group-containing compound, a carboxyl-group-containing compound, for covering the semiconductor devices with a metal oxide (see English Abstract).

Nissan Chem. fails to teach that the production process is for compound semiconductor particles wherein the particles including the compound semiconductor are particles obtained by a process including the step of polish – pulverizing coarse particles of the compound semiconductor to thereby fine the particles and mixing the particles in the above mixtures.

JSR Corp. teaches a coating process in which semiconductor particles are coated with an organic alkoxide mixture for the benefit of providing a coating composition for superior stability and weather resistance (see English Abstract).

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Nissan Chem. and use the composition to coat semiconductor particles for the benefit of providing a coating composition for superior stability and weather resistance as taught by JSR Corp. in the English Abstract.

It would have been obvious to one with ordinary skill in the art at the time of the invention that the semiconductor particles could be fine particles of compound semiconductors for the benefit of protecting the surfaces of these semiconductor compounds since the surfaces of these semiconductors are very prone to atmospheric degradation due to the presence of oxygen and moisture. Similarly, it would have been

obvious to one with ordinary skill in the art at the time of the invention that the semiconductor particles are produced by grinding coarse particles, since particle comminution is one of the well known processes for producing fine particles.

Regarding claim 3, the limitations of the claim are described earlier in rejecting claims 1 and 2. Regarding the size of the particles, JSR Corp. teaches the semiconductor particle diameters smaller than 1  $\mu\text{m}$  in paragraph 23 under "Detailed Description of the Invention".

5. Claims 4 – 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Adair, Materials Science and Engineering R: Vol. 23 (4 – 5), p 139(1998) in view of JSR Ishikawa, US 6,656,602.

Regarding claim 4, Adair teaches compound semiconductor particles, which comprise body particles and a metal oxide, wherein the body particles have particle diameters of smaller than 1  $\mu\text{m}$  and are covered with the metal oxide and include a compound semiconductor including an essential element combination of at least one element X selected from the group consisting of C, Si, Ge, Sn, Pb, N, P, As, S, Sb, Se, and Te and at least one metal element M that is not identical with the element X such as CdS.

Adair fails to teach wherein the metal oxide is a metal oxide to which an acyloxy group is bonded.

Ishikawa teaches that metal acylate compounds can be used in the coating of inorganic particles in column 5, lines 19 – 22 for the benefit of providing gas barrier properties to the coating composition in column 1, lines 7 – 13.

Therefore, it would have been obvious to one with ordinary skill in the art at the time of the invention to modify Adair and use metal acylate compounds for the benefit of providing gas barrier properties to the coating composition as taught by Ishikawa in column 1, lines 7 – 13.

Regarding claim 5, the limitations of the claim are described earlier in rejecting claims 1 and 2.

### ***Conclusion***

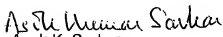
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Asok K. Sarkar whose telephone number is 571 272 1970. The examiner can normally be reached on Monday - Friday (8 AM- 5 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William B. Baumeister can be reached on 571 272 1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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7. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Asok K. Sarkar  
December 3, 2007

Primary Examiner